

**STATEMENT
OF
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UNDER SECRETARY OF TRANSPORTATION FOR POLICY
BEFORE THE
HOUSE COMMITTEE ON SCIENCE
SUBCOMMITTEE ON SPACE AND AERONAUTICS
ON THE STATUS OF THE NEXT GENERATION AIR TRANSPORTATION
SYSTEM**

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Good afternoon, Chairman Calvert, Congressman Udall, and Members of the Subcommittee. I would like to thank you for the opportunity to testify today on such an important subject as the Joint Planning and Development Office, or JPDO, and its vital role in fostering the establishment of the Next Generation Air Transportation System. The development of the Next Generation Air Transportation System, or NGATS, is a high priority for Secretary Mineta, Administrator Blakey, and all of us at the Department of Transportation. I am very pleased to be with you today as the Department's representative.

The NGATS initiative is unprecedented in its scope, complexity and the challenges it will face. Our vision of this system is one that encompasses the whole air travel experience -- from the moment the passenger arrives at the departure airport to his or her exit from the destination airport. The NGATS System includes security, safety, and efficiency of passenger, cargo and aircraft operations. Aircraft will be able to use information technology in a more robust way, with enhanced capabilities in the cockpit, better navigation and landing capabilities, and far more comprehensive and accurate knowledge of weather and traffic conditions in real time. And, the users of the system, who will be

flying in a far more diverse array of aircraft types, will find the system works with less delay than the current system, with a less intrusive security process, and with increased safety, all while handling significantly increased traffic as compared to the current system.

We have a great air traffic control system today. But the Next Generation Air Transportation System will be more flexible, resilient, scalable, adaptive, and highly automated than today's system. The NGATS operational vision is not just related to the air traffic management system alone, but also includes the preservation and growth of airports, heliports, and other future landing and departure facilities to fully incorporate the emerging NGATS benefits. This system will be built on a far more robust information network than anything we have seen to date, ensuring that the right information gets to the right person at the right time, while keeping the nation safe and the flow of traffic running smoothly. We will increasingly cut the cord between ground and air as we put more information directly into the cockpit of intelligent aircraft through sensors and satellites linked together through network communications.

The importance of developing this system of the future is also quite clear to policymakers in Europe, where a comparable effort is well underway. This presents both a challenge and an opportunity to the United States. Creating a modernized, global system that provides interoperability could serve as a tremendous boost to the aerospace industry, fueling new efficiencies and consumer benefits. Alternatively, we could also see a

patchwork of duplicative systems and technologies develop, which would place additional cost burdens on an industry already struggling to make ends meet.

Under the leadership of FAA Administrator Blakey, the JPDO now serves as a focal point for coordinating the research related to air transportation for agencies across the Federal government, including the Departments of Transportation, Commerce, Defense and Homeland Security, as well as NASA. Early on, we realized that an initiative of this magnitude and complexity could never be successfully completed by DOT alone, especially in a post-9/11 world. We sought support from others, and they delivered. NASA has been a close partner from the beginning, and all the other agencies involved have provided invaluable support to the JPDO that has helped us establish a strong, collaborative atmosphere.

Another special feature of this initiative is the high-level participation from each of these organizations. Secretary Mineta chairs a Senior Policy Committee made up of Deputy Secretary-level officials from the other organizations, and the White House Office of Science and Technology Policy (OSTP). The Senior Policy Committee directs the effort and will be responsible for its ultimate success or failure. The participating agencies have been highly engaged from the outset, and we are grateful for their continued support.

Our overarching goal in the NGATS System initiative is to develop a system that will be flexible enough to accommodate a wide range of users -- very light jets and large

commercial aircraft, manned and unmanned air vehicles, small airports and large, business and vacation travelers alike, while handling a significantly increased number of operations with no diminution in safety, security and efficiency. I must emphasize that not all elements of the NGATS system in 2025 are known today. Research will continue to help us find the right balance between a centralized ground system and a totally distributed system, where aircraft “self-manage” their flight with full knowledge of their environment.

That research is being undertaken through a close partnership with the research community, industry and other stakeholders. This process ensures full coordination of research across agency lines and between government and the private sector in ways that have not been done in the past. The fact is that we already have a sizable amount of resources being spent each year on air transportation-related research. By better coordinating our actions, avoiding duplication and tying these activities together through a long-term, integrated national plan, we can maximize the benefits of those public and private investments and target our limited resources more effectively.

Existing Federal Advisory Committees will be used to ensure all plans and decisions receive broad review and public comment. These committees include senior-level executives from across industry empowered to provide advice on strategy and transition issues.

We need the best minds in America across both the public and private sectors working on the task of creating a NGATS system. To achieve this, we have established a Next Generation Air Transportation System Institute (the NGATS Institute) that allows stakeholders to get directly involved in the transformation process. And, while the Aerospace Industries Association (AIA) is the host for the Institute, it is co-chaired by the presidents of the Air Line Pilots Association and the Air Transport Association and open for participation by all segments of the industry.

The Joint Planning and Development Office (JPDO) achieved important milestones in 2005 towards building the NGATS system. The JPDO completed its internal organization and created eight government/industry Integrated Product Teams (IPTs) to break this large and complex project into manageable strategies. These strategies focus on those aspects of aviation that hold the keys to capacity and efficiency improvements – airport infrastructure, security, a more agile air traffic system, shared situational awareness, safety, environmental concerns, weather and global harmonization of equipage and operations. Each agency involved in the initiative leads at least one of the Integrated Product Teams. The Teams work closely with our stakeholders to ensure that they have an early window into our thinking and that we take full advantage of their expertise every step of the way. What truly sets this new structure apart is that it eliminates duplication of effort and gets everyone involved in aviation across the Federal government working toward a common goal – creation of a NGATS system.

The IPTs have already begun the important process of moving from the general to the specific, and from objectives to capabilities. As of December 2005, nearly 200 industry and private sector participants representing around 70 organizations and companies were actively involved in the IPTs' planning and development work. This participation has been a major initial focus of the NGATS Institute. The NGATS Concepts of Use and Operations, and a preliminary Enterprise Architecture will be released for comment this summer. In 2005, the JPDO moved ahead with plans to accelerate the development of key NGATS projects, such as Automatic Dependent Surveillance-Broadcast (ADS-B), and System Wide Information Management (SWIM). In its Fiscal Year 2007 budget proposal, the Administration proposed several targeted investment areas, to promote early implementation of elements of the NGATS system. The details of these programs will evolve over time as the Enterprise Architecture is fully developed and system requirements are established. These accomplishments are highlighted in the recently published "2005 Progress Report to the NGATS Integrated Plan" that was transmitted to Congress on March 10th as required by Vision 100.

One of these very promising initiatives, with potential for broad operational applications, is the Automatic Dependent Surveillance-Broadcast (ADS-B) system, a technology that will replace ground-based radar systems and revolutionize air navigation and surveillance. For FY 2007, the President's budget includes \$80 million for the FAA for the ADS-B program. The ADS-B system was the key enabling technology for the Capstone demonstration program in the Alaska Region.

Capstone is a technology-focused safety program in Alaska that seeks near-term safety and efficiency gains in aviation by accelerating implementation and use of modern technology, in both avionics and ground system infrastructure. The impetus for the Capstone program was a series of meetings between the FAA and aviation interests to address the exceedingly high accident rate in Alaska for small aircraft operations, which was nearly five times greater than the national average. Through 2005, the Capstone Program achieved significant safety and efficiency results. Capstone-equipped aircraft have had a consistently lower accident rate than non-equipped aircraft. From 2000 through 2005, the rate of accidents for Capstone-equipped aircraft dropped significantly--by 49 percent. That is real progress.

Another technological innovation, known as Required Navigation Performance, or RNP, adds capacity, improves efficiency and reduces fuel consumption. RNP uses on-board technology that allows pilots to fly more direct point-to-point routes reliably and accurately. RNP is extremely accurate, and gives pilots not only lateral guidance, but vertical precision as well. RNP reaches all aspects of the flight – departure, en route, arrival, and approach. For example, in January 2005, in partnership with Alaska Airlines, we implemented new RNP approach procedures at Palm Springs International Airport, which is located in very mountainous terrain. Under the previous conventional procedures in use at Palm Springs, planes could not land unless the ceiling and visibility were at least 2,300 feet and 3 miles. With these new RNP procedures, approved air carriers can now operate with a ceiling and visibility as low as 734 feet and one mile. This lower landing minima has allowed Alaska Airlines to “save” 27 flights between

January and November, 2005, flights which would have otherwise had to divert to Ontario, California—an added distance of at least 70 miles.

Given its fundamental importance to the success of the NGATS System, establishing an initial Network-Enabled Operations (NEO) capability is a high priority. Current efforts focus on identifying the network architecture and enacting standards for information and safety data sharing. This is the situation today: DoD has already invested considerable resources in information technology and telecommunication research focused on NEO and information access and sharing. FAA, DHS and Commerce are also committed to developing network-centric information architectures. The opportunity now exists to synchronize these efforts, especially in the areas of data interoperability and compatible network-to-network interface mechanisms. Two on-going DoD initiatives – the synchronization of DoD and DHS classified networks and DoD’s development of its Net-Centric Enterprise Services – will serve as templates for this effort.

In 2005, the JPDO, FAA and an industry team demonstrated how network-enabled concepts developed for the military customers can be applied to Air Traffic Management. The Joint Network-Enabled Operations Security Demonstration connected seven Air Traffic Management and security systems distributed over 12 different locations. It showed how sharing information in real time across air traffic, air defense, and law enforcement domains helps agencies respond to a security incident more efficiently. The exciting part of the NEO demonstration project is that it enabled communication between agencies’ individual, stove-piped networks, eliminating the need to throw out all the

individual legacy systems and create a brand new mega-system, which would be prohibitively expensive.

In July 2006, the JPDO will also conduct a demonstration project involving the FAA's System Wide Information Management (SWIM) program – the beginning of network-centric operation in the National Airspace System. The President's budget proposal for Fiscal Year 2007 requests \$24 million for FAA's SWIM program.

Another major change in support of NGATS is the restructuring of the NASA Aeronautics Program. Under the leadership of Administrator Griffin and Associate Administrator Porter, the program has been restructured with one of its three tenets being to support the development of NGATS. In fact, one of its four major elements – the Airspace Systems Program, is completely dedicated to the air traffic management requirements of NGATS. The program will be pioneering automated, high density, trajectory management technologies to completely change the way traffic is managed and controlled in the future. Automated trajectory management is at the heart of the NGATS operational concept. NASA has been working in this area of research for years, with notable successes, like the Traffic Management Advisor, which provides time-based metering of aircraft flows. The Traffic Management Advisor is in operation today and is in the process of being deployed throughout the National Airspace System.

Mr. Chairman, NGATS will require years of hard work and unparalleled coordination among the many Federal agencies and stakeholders involved. The process has now begun in earnest, however, and by aligning our resources and activities through the

JPDO, I am confident we will succeed. We will, of course, need strong support from Members of Congress, and we therefore look forward to working with all of you on this critical endeavor.

This concludes my testimony. Thank you very much for the opportunity to appear before you today, and I look forward to answering your questions.